CLAIM AMENDMENTS

1. (Currently Amended) A method of counteracting flow induced forces in a valve assembly comprising a valve and a valve body, the valve body including an axial valve chamber and a radial passage, the valve being translatable in the axial valve chamber, comprising:

pressurizing fluid in the axial ~~passage~~ valve chamber to a pressure greater than the radial passage;

controlling fluid flow from ~~an~~ the axial valve chamber radially outwardly to ~~a~~the radial passage with the valve, the controlling of fluid causing an axial flow induced force to develop across the valve;

directing fluid flow from the axial valve chamber to the radial passage along a flow path that extends substantially in only one direction such that fluid flow between the axial valve chamber and the radial passage does not reverse direction therebetween;

restricting the fluid flow from the axial valve chamber to the radial passage with a first restriction between the valve and the valve body;

restricting the restricted fluid flow with a second restriction between the valve and the valve body radially outward of the first restriction, thereby forming an intermediate pressure region between the first and second restrictions, the intermediate pressure region having a fluid pressure between that of the axial valve chamber and the radial passage; and

applying a counteracting axial force to the valve with the intermediate pressure region acting on the valve, the counteracting axial force counteracting the axial force of the axial flow induced force.

2. (Currently Amended) The method of claim 1, wherein the valve is movable between open and closed positions for permitting and preventing fluid flow between the axial chamber and the radial passage ~~first and second flow passages~~, respectively, further comprising:

cracking the valve open from the closed position at a cracking point for the valve; and

selectively pre-sizing the second restriction greater than the first restriction relative to the axial flow induced force at the cracking point such that the counteracting force opposes substantially between 50% and 130% of the axial flow induced force at the cracking point.

3. (Currently Amended) The method of ~~claim 1~~ claim 2 further comprising:

simultaneously decreasing the magnitude of the axial flow induced force and the counteracting force as the valve continues to open from the closed position to the open position by increasing the size of the first and second restrictions in unison, wherein the counteracting force opposes substantially between 50 % and 130% of the axial flow induced force at all valve positions between the cracking point and a position of the valve wherein the axial flow induced force is one half of the axial flow induced force at the cracking point.

4. (Original) The method of claim 2 further comprising selectively profiling a radially extending surface of the valve between the first and second restrictions.

5. (Original) The method of claim 1 further comprising:
proportionally increasing the size of the first and second restrictions in unison.

6. (Original) The method of claim 1 further comprising translating the valve to a fully open position wherein the size of the second restriction is between 1.1 and 1.5 times of the first restriction.

7. (Original) The method of claim 1 further comprising reciprocating the valve between two positions using a solenoid to move the valve one direction and a return spring to move the valve a second direction opposite said first direction.

8. (Original) The method of claim 1 wherein the first restriction and the second restriction are separated by an axial distance of between 0 and 10 millimeters and a radial distance of between 0 and 3 millimeters.

9. (Original) The method of claim 1 wherein the step of restricting at the first restriction comprises metering the fluid flow, wherein the first restriction is smaller than the second restriction, the first restriction increasing and decreasing in unison with the second restriction as the valve linearly translates.

10. (Currently Amended) The method of claim 1 further comprising guiding the valve linearly with a ~~first~~ first land and ~~second lands~~a second land, the first and second lands being spaced apart and sliding against the axial valve chamber, the first land having the first and second restrictions.

11. (New) A method of counteracting flow induced forces in a valve assembly comprising a valve and a valve body, the valve body including an axial valve chamber and a radial passage, the valve being axially translatable in the axial valve chamber between open and closed position to control fluid flow from a high pressure region to a lower pressure region, comprising:

creating a pressure differential between the axial valve chamber and the radial passage when in the closed position;

fluidically balancing fluid pressure across the valve in the closed position by having the high pressure region act upon opposed first and second valve lands such that substantially no axial force is generated on the valve by the high pressure region in the closed position;

cracking the valve open from the closed position at a cracking point for the valve; and

controlling fluid flow between an axial valve chamber and the radial passage with the valve, the controlling of fluid causing an axial flow induced force to develop across the valve at the cracking point;

restricting the fluid flow between the axial valve chamber and the radial passage with a first restriction between the valve and the valve body;

restricting the restricted fluid flow between the axial valve chamber and the radial passage with a second restriction radially spaced from the first restriction, thereby forming an intermediate pressure region between the first and second restrictions, the intermediate pressure region having a fluid pressure between that of the axial valve chamber and the radial passage; and

applying a counteracting axial force to the valve with the intermediate pressure region acting on the valve, the counteracting axial force counteracting the axial force of the axial flow induced force.

12. (New) The method of claim 11 further comprising directing fluid flow from the axial valve chamber to the radial passage along a flow path that extends substantially in only one direction such that fluid flow between the axial valve chamber and the radial passage does not reverse direction therebetween.

13. (New) The method of claim 11, wherein the valve is movable between open and closed positions for permitting and preventing fluid flow between the first and second flow passages, respectively, further comprising:

selectively pre-sizing the second restriction greater than the first restriction relative to the axial flow induced force at the cracking point such that the counteracting force opposes substantially between 50% and 130% of the axial flow induced force at the cracking point.

14. (New) The method of claim 11 further comprising:
simultaneously decreasing the magnitude of the axial flow induced force and the counteracting force as the valve continues to open from the closed position to the open position by increasing the size of the first and second restrictions in unison, wherein the counteracting force opposes substantially between 50 % and 130% of the axial flow induced force at all valve positions between the cracking point and a position of the valve wherein the axial flow induced force is one half of the axial flow induced force at the cracking point.

15. (New) The method of claim 11 further comprising:
proportionally increasing the size of the first and second restrictions in unison.

16. (New) The method of claim 11 further comprising translating the valve to a fully open position wherein the size of the second restriction is between 1.1 and 1.5 times of the first restriction.

17. (New) The method of claim 11 further comprising reciprocating the valve between two positions using a solenoid to move the valve one direction and a return spring to move the valve a second direction opposite said first direction.

18. (New) The method of claim 11 wherein the first restriction and the second restriction are separated by an axial distance of between 0 and 10 millimeters and a radial distance of between 0 and 3 millimeters.

19. (New) The method of claim 11 wherein the step of restricting at the first restriction comprises metering the fluid flow, wherein the first restriction is smaller than the second restriction, the first restriction increasing and decreasing in unison with the second restriction as the valve linearly translates.

20. (New) The method of claim 11 further comprising guiding the valve linearly with the first and second valve lands, the first and second valve lands being spaced apart and sliding against the axial valve chamber, the first land having the first and second restrictions.